

REMARKS/ARGUMENTS

Claims 1, 2, 5-14 and 16-20 remain in this application. Claims 3 and 4, and 15 have been canceled, and the limitations have been added into Claims 1 and 13, respectively.

The Examiner has rejected to Claim 9 due to a typo. Claim 9 has been amended to obviate this objection.

The Examiner has rejected Claims 1-4 and 13-15 as being unpatentable over Kung in view of Klincewicz. Applicants respectfully traverse this rejection. Referring to Kung, there is a paper titled use of a link-by-link flow control in maximizing ATM network performance: simulation results. Kung teaches a set of credit-based flow control schemes for implementing link by link flow controlled virtual channels. Kung teaches an efficient way of implementing a per VC link by link flow control is to use a credit-based approach. A flow control VC is composed of one or more flow control VC links connecting various subsystems such as switches and adapters.

During the operation of a VC, two types of ATM cells, called data and credit cells, are used. A data cell transports data belonging to the VC. A credit cell transports credit values in the various credit-related management information for the VC. All credit cells are transported over some reserves VCs, called the credit carrier VCs. Each VC link is associated with a pair of sender and receiver buffers called VC buffers. Transporting data cells from the sender buffer to the receiver buffer over the VC can be flow controlled to prevent overrun of the receiver buffer. Before forwarding any data cell over the link, the sender needs to receive credits for the VC via credit cells sent by the receiver. At various times, the receiver sends credit cells to the sender indicating that there is a certain amount of buffer space available for receiving data cells of the

VC. After having received credits, the sender is eligible to forward data cells of the VC to the receiver. Each time the sender for words or the data cell of a VC, it decrements its current credit account for the VC by one. When receiving a credit cell for a VC the sender updates its credit count for the VC using an absolute updating method, as opposed to a relative or additive method. This means that the new credit count will be computed entirely from the newly received credit, independently of the old credit counts. See columns 1 and 2 of page 2 of Kung.

Kung then describes the algorithm that determines how many data cells can be forwarded and credit cells can be sent to maximize bandwidth usage. See section 4.3 titled basic N 23 algorithm. There is a Examiner recognizes on page 3 of the Office Action, Kung is silent on determining link length based on memory length. Kung is also silent regarding "the controller includes a billing module for billing for the physical line bandwidth usage by the packet based on the link length of the packet".

Referring to Klincewicz, there is disclosed an apparatus and method for designing a network. It must be emphasized that the teachings of Klincewicz focus on a design module for designing a network. Kung teaches when a designer of a network uses the input device and requires the services of the network design module 140, data signals are routed from the input device via the bus 160 to the main CPU. The network design module may perform network design processing based on data generated, sent and received by the devices. See column 2, line 65-column 3, line 8. The network design module may determine the size of the bandwidth by assigning virtual channels to each of a plurality of traffic classes with each virtual channel being sized separately and wherein a total bandwidth on the link is based on the sum of the bandwidths of the virtual channels as well as on a maximum utilization factor for the links. See column 3, line 40-45. The network design module may allow a designer to design a network such as a packet data network that supports quality of service, in which nodes originate and terminate

traffic, so as to ensure that a delay limit on node to node delay sensitive communication is less than or equal to a specified threshold and that link utilization remains high. See column 5, lines 3-35. In fact any prior review of all the teachings of Klincewicz only have to do with how the design module allows a user to design a network. While the associated teachings regarding the network itself are ancillary and in fact a rather standard, it is respectfully submitted that the reliance by the Examiner on Klincewicz where the architecture of the network being design includes utilizing and determining link lengths and traffic routing, is misplaced in regard to its application to the teachings of Kung. This is because it is black letter patent law that teachings cannot be taken out of the context in which they are found. The context of Klincewicz is a network design module that identifies various attributes of a network that would be considered necessary in its design. In contrast, Kung teaches a credit-based flow control scheme that specifically requires credit cells and data cells to be transmitted over a network to control congestion, where data cells can only be sent when the proper credit is available by the VC to send the credit. These two contexts have nothing to do with each other. There is no reason why one skilled in the art would look to the teachings of Klincewicz to modify the teachings of Kung to arrive at applicants' claimed invention.

It is respectfully submitted that the only reason these two references are being combined by the Examiner is because of hindsight. The Examiner is using applicants' limitations of Claim 1 as a roadmap to find the various limitations in disparate references, and having found them, concluding that applicants' claimed invention is arrived at. However, this also is not patent law.

It is further submitted that the use of a credit-based flow control scheme is in direct conflict with the little that Klincewicz teaches regarding the operability of the network itself. As explained above, Klincewicz teaches that each virtual channel is sized separately and wherein a total bandwidth on the link is based on the sum of the bandwidths of the virtual channels as well

as on a maximum utilization factor for the links. This teaching has no consideration or use in Kung. Moreover, Klincewicz teaches that the delay limit on node to node delay sensitive communication is less than or equal to a specified threshold and that link utilization remains high. This again is in direct conflict and has nothing to do with the credit-based flow control scheme taught by Kung. There is no explanation how one skilled in the art would be able to take the teachings regarding network operation of Klincewicz and apply them to the credit-based flow control schemes of Kung. If it were to somehow or other be able to be accomplished, it would require significant design, research and development work, which only supports a finding that it would not be obvious to combine these references.

It also must be stated that Claim 1 has the limitation that "a packet memory links is stored" and that the "means for determining a link length for the packet that will be sent on to the network" is "based on the memory length and at least one parameter, where the link length correctly corresponds to the packet's physical line bandwidth usage in the network". Neither Kung nor Klincewicz actually specifically teach this limitation. The Examiner states that Kung teaches various link lengths and that link length is associated with the amount of memory, but applicants' claimed invention has to do with the packet memory length, which is distinct.

In addition, Claim 1 now has the limitation of "a billing module for billing for the physical line bandwidth usage by the packet based in the link length of the packet". As the Examiner recognizes in the Office Action on page 5, Kung does not teach or suggest anything at all about billing. The Examiner submits that Klincewicz has some general reference to cost/billing for each link and thus it would be obvious to arrive at this limitation. However, a review of Klincewicz does not show this teaching regarding billing, and certainly does not teach a specific limitation of "a billing module for billing for the physical line bandwidth usage by the packet based on the link length of the packet" as now found in claim 1. Applicants respectfully

Appl. No. 10/642,310
Amdt. dated August 3, 2007
Reply to Office action of May 3, 2007

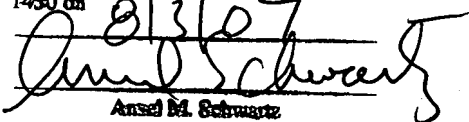
submit that in the event there is even some general reference to billing, there are a multitude of ways to accomplish billing, and for the Examiner to make the assumption that the specific limitation is meant is respectfully, reading a limitation into the teachings of Klinecicz which are not there. Accordingly, Claim 1, as amended, is patentable over the prior art of record. Claim 2 is dependent to parent Claim 1 and is patentable for the reasons Claim 1 is patentable.

Claim 13 is patentable for the reasons Claim 1 is patentable. Claim 14 is dependent to Claim 13 and is patentable for the reasons Claim 13 is patentable.

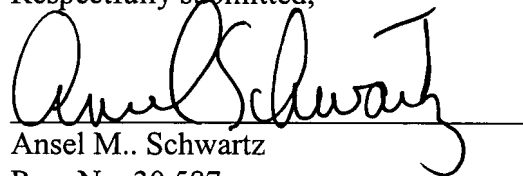
The Examiner has determined that Claims 5-12 and 16-20 would be allowable.

In view of the foregoing amendments and remarks, it is respectfully requested that the outstanding rejections and objections to this application be reconsidered and withdrawn, and Claims 1, 2, 5-14 and 16-20, now in this application be allowed.

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